

NIXIE® TUBES CONTAINING KRYPTON 85 STORAGE AND HANDLING

1. GENERAL

1.01 This section covers the handling of NIXIE tubes and the precautions which must be taken at the location of installation.

1.02 The NIXIE tubes contain a small amount (less than 0.5 mCi each) of krypton 85, which is a radioactive material. Although the radiation effect from these tubes in normal use is considered negligible, precautions should be exercised when a large number of tubes and lamps are installed in one location and when handling broken tubes.

1.03 The NIXIE tubes are manufactured under a United States Atomic Energy Commission (USAEC) license for distribution as exempt items. This release may or may not be binding in all the states (see Part 5).

2. STORAGE

2.01 Do not store photographic film within 15 feet of these tubes. Prolonged radiation can penetrate the packaging and expose the film.

3. HANDLING

3.01 The tubes covered in this section represent no radiation hazard in normal use. However, precautions should be observed when handling broken tubes and in the disposal of them.

3.02 *Accidental Breakage of a Large Number of NIXIE Tubes:* An accidental breakage of a large number (all normally within a room—approximately 750) would result in an average concentration of krypton-85 of less than 10 percent of the maximum permissible concentration in the air for occupational exposure for a 168-hour week.

3.03 Use a wet rag to pick up the broken parts and dispose of them as covered in Part 4. To avoid injury, do not touch broken parts with bare hands. Avoid breathing the vapor from broken tubes.

3.04 Where a defective tube is not broken, remove it in accordance with standard practices and dispose of it as covered in Part 4.

4. DISPOSAL

4.01 Tubes to be disposed of should be broken or crushed in a well-ventilated place releasing any resulting vapors to the outside atmosphere. The residual broken or crushed tubes should be disposed of in normal public trash disposal system.

5. REGULATIONS

5.01 The USAEC places no further regulatory requirements on the users of these tubes. It is suggested that facilities using these tubes in any quantity in the states listed in Table A should contact the appropriate regulatory body within that state for direction.

TABLE A

STATES WHICH MAY REQUIRE REGISTRATION	
Connecticut	Rhode Island
Illinois	West Virginia
Massachusetts	Wyoming
New Mexico	Vermont
North Dakota	
STATES WHICH MAY GRANT EXEMPTIONS ON REQUEST	
Maine	Minnesota
Maryland	Nebraska
Michigan	Oregon
STATES WHICH MAY REQUEST LIST OF TUBES AND LOCATIONS	
Maryland	South Dakota